

Rec'd PCT/PTO 14 FEB 2005

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 February 2004 (26.02.2004)

PCT

(10) International Publication Number
WO 2004/016617 A1

(51) International Patent Classification⁷: C07D 487/08,
A61K 31/551, A61P 25/00, 1/04

(74) Agent: ASTRAZENECA AB; Global Intellectual Prop-
erty, S-151 85 Södertälje (SE).

(21) International Application Number:
PCT/SE2003/001277

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 13 August 2003 (13.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0202430-5 14 August 2002 (14.08.2002) SE

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): AS-
TRAZENECA AB [SE/SE]; S-151 85 Södertälje (SE).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): ERNST, Glen
[US/US]; AstraZeneca Wilmington, P.O. Box 15437,
Wilmington, DE 19850-5437 (US). PHILLIPS, Eflon
[GB/US]; AstraZeneca Wilmington, P.O. Box 15437,
Wilmington, DE 19850-5437 (US). SCHMIESING,
Richard [US/US]; AstraZeneca Wilmington, P.O. Box
15437, Wilmington, DE 19850-5437 (US).

Published:

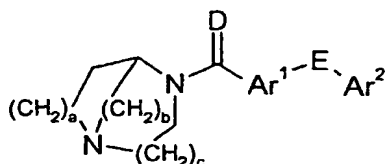
— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.



WO 2004/016617 A1

(54) Title: BIARYL DIAZABICYCLOALKANE AMIDES AS NICOTINIC ACETYLCHOLINE AGONISTS



(I)

(57) Abstract: Nicotinic acetylcholine receptor of formula (I) wherein D, Ar¹,
← E and Ar² are as defined in the specification, enantiomers, pharmaceutically
acceptable salts, methods of making, pharmaceutical compositions containing
and methods for using the same in the treatment or prophylaxis of psychotic dis-
orders, intellectual impairment disorders, Alzheimer's disease, learning deficit,
cognition deficit, attention deficit, memory loss, Lewy Body Dementia, At-
tention Deficit Hyperactivity Disorder, anxiety, schizophrenia, mania or manic
depression, Parkinson's disease, Huntington's disease, Tourette's syndrome, neurodegenerative disorders in which there is loss of
cholinergic synapse, jetlag, cessation of smoking, nicotine addiction, pain, ulcerative colitis or irritable bowel syndrome.